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| APPLICATION NO. | FILING DATE | FIRST NAMED INVENTOR | ATTORNEY DOCKET NO. | CONFIRMATION NO. |
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| 09/770,358 | 01/25/2001 | Ashish Thusoo | 256/295 | 7894 |

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| EXAMINER |
|---|
| TO, BAOQUOC N |

| ART UNIT | PAPER NUMBER |
|---|---|
| 2172 | |

DATE MAILED: 01/28/2003

Please find below and/or attached an Office communication concerning this application or proceeding.

| Office Action Summary | Application No. | Applicant(s) | |
|---|---|---|---|
| | 09/770,358 | THUSOO ET AL. | |
| | Examiner | Art Unit | |
| | Baoquoc N To | 2172 | |

*-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --*

**Period for Reply**

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

**Status**

1)☐ Responsive to communication(s) filed on _____ .

2a)☐ This action is **FINAL**. 2b)☒ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

**Disposition of Claims**

4)☒ Claim(s) _____ is/are pending in the application.

4a) Of the above claim(s) _____ is/are withdrawn from consideration.

5)☐ Claim(s) _____ is/are allowed.

6)☒ Claim(s) 1-16 is/are rejected.

7)☐ Claim(s) _____ is/are objected to.

8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

**Application Papers**

9)☐ The specification is objected to by the Examiner.

10)☐ The drawing(s) filed on _____ is/are: a)☐ accepted or b)☐ objected to by the Examiner.

Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

11)☐ The proposed drawing correction filed on _____ is: a)☒ approved b)☐ disapproved by the Examiner.

If approved, corrected drawings are required in reply to this Office action.

12)☐ The oath or declaration is objected to by the Examiner.

**Priority under 35 U.S.C. §§ 119 and 120**

13)☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

a)☐ All b)☐ Some * c)☐ None of:

1.☐ Certified copies of the priority documents have been received.

2.☐ Certified copies of the priority documents have been received in Application No. _____ .

3.☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

14)☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. § 119(e) (to a provisional application).

a) ☐ The translation of the foreign language provisional application has been received.

15)☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. §§ 120 and/or 121.

**Attachment(s)**

1) ☒ Notice of References Cited (PTO-892)
2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3) ☐ Information Disclosure Statement(s) (PTO-1449) Paper No(s) _____ .
4) ☐ Interview Summary (PTO-413) Paper No(s). _____ .
5) ☐ Notice of Informal Patent Application (PTO-152)
6) ☐ Other: .

## DETAILED ACTION

1. Claims 1-16 are presented for examination.

### *Claim Rejections - 35 USC § 103*

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

> (a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negatived by the manner in which the invention was made.

2. Claims 1-16 are rejected under 35 U.S.C. 103(a) as being unpatentable over Cheng et al. (US. Patent No. 5,963,933).

Regarding on claim 1, Cheng teaches a method for applying a row from a source table to a destination table, the method comprising:

Selecting first column from a source table (left table) (col. 2, line 40);

Selecting a second column from a destination table (right table, line 41);

Performing an outer join (outer join) operation on the source table and the destination table using the first and second columns (col. 2, lines 41-44);

Cheng does not explicitly teaches updating each row in the destination table in row the results of the outer join operation containing a matching element in the first and second columns; and inserting into the destination table row from the results of the full outer join operation with a non-matching elements in the first and second column. However, Cheng teaches, "if the tuples of tables are preserved, then the operation is called full outer join" (col. 2, lines 49-50). In addition, Cheng also teaches, "in the output

or answer set, for the non-matching tuples of a preserved table, NULL values assigned to the columns of other table" (col. 2, lines 53-55). This teaches the Null values are assigned to the columns of the other table (destination table). Therefore, it would have been obvious to one ordinary skill in the art to include the full outer join to combine those tables containing the columns of rows join those records and fill in the NULL values for empty columns to allow the user to receive the corrected result set from the requested query.

Regarding on claim 2, teaches the combining the rows in the source table that the first column has unique element in each row (col. 8, lines 39-42).

Regarding on claim 3, teaches the combining step further comprises:

Sorting the rows in the source table based on the element in the first column (col. 9, lines 23-25); and

Creating a groups of rows, wherein each row in the group of rows contains a matching element in the first column (col. 9, lines 23-25);

Combining the group of rows into a single row (col. 9, lines 30-35).

Regarding on claim 4, Cheng does not explicitly teach the outer join operation uses an equal comparison operator for a comparison statement (equals "=") (col. 4, lines 4, lines 29-36).

Regarding on claim 5, Cheng teaches a single query language statement to insert a new row or update an existing row in database table, the statement implementing a process comprising the steps of:

Selecting from a source table (left table) a first column comprising a plurality of elements (col. 2, line 40);

Selecting from a destination table (right table) a second column comprising a plurality of elements (col. 2, line 41);

Determining a set of matching rows based upon the success of a comparison operation on an element in the first column and an element in the second column (col. 9, lines 24-28);

Determining a set of non-matching rows based upon the failure of a comparison operation on the first column element and the second column element (col. 10, lines 3-37);

Cheng does not explicitly teach updating the destination table with the set of matching rows; and inserting into destination table the set of non-matching rows. However, Cheng teaches, "if the tuples of tables are preserved, then the operation is called full outer join" (col. 2, lines 49-50). In addition, Cheng also teaches, "in the output or answer set, for the non-matching tuples of a preserved table, NULL values assigned to the columns of other table" (col. 2, lines 53-55). This teaches the Null values are assigned to the columns of the other table (destination table). Therefore, it would have been obvious to one ordinary skill in the art to include the full outer join to combine

those tables containing the columns of rows join those records and fill in the NULL values for empty columns to allow the user to receive the corrected result set from the requested query.

Regarding on claim 6, Cheng teaches combining the rows in the source table, wherein the resulting source table has a unique element in each row of the first column (col. 8, lines 39-42).

Regarding on claim 7, Cheng teaches the combining step further comprises:

Sorting the rows in the source table based on the element in the first column (col. 9, lines 23-25); and

Creating a group of rows, wherein each row in the group of rows contain a matching element in the first column (col. 9, lines 23-25);

Combining the group of rows into a single row (col. 9, lines 30-35).

Regarding on claim 8, Cheng teaches the comparison operation uses an equal comparison operator (equals "=") (col. 4, lines 4, lines 29-36).

Regarding on claim 9, Cheng teaches a method for upserting a source table with a destination table in a single query language, the method comprising:

Selecting from a source table (left table) a first column comprising a plurality of elements (col. 2, line 40);

Selecting from a destination table (right table) a second column comprising a plurality of elements (col. 2, line 41);

Cheng does not explicitly teach updating a row in the destination table with a row from the source table upon the success of a comparison operation on an element in the first column of the row from the source table and an element in the second column of the row from the destination table; and inserting a row from the source table into the destination table upon the failure of a comparison operation on an element in the first column of the row from the source table and an element in the second column of the row from the destination table. However, Cheng teaches, "if the tuples of tables are preserved, then the operation is called full outer join" (col. 2, lines 49-50). In addition, Cheng also teaches, "in the output or answer set, for the non-matching tuples of a preserved table, NULL values assigned to the columns of other table" (col. 2, lines 53-55). This teaches the Null values are assigned to the columns of the other table (destination table). Therefore, it would have been obvious to one ordinary skill in the art to include the full outer join to combine those tables containing the columns of rows join those records and fill in the NULL values for empty columns to allow the user to receive the corrected result set from the requested query.

Regarding on claim 10, Cheng teaches combining the rows in the source table, wherein the resulting source table has a unique element in each row of the first column (col. 8, lines 39-42).

Regarding on claim 11, Cheng teaches the combining the step further comprises:

Sorting the rows in the source table based on the element in the first column (col. 9, lines 23-25); and

Creating a group of rows, wherein each row in the group of rows contains a matching element in the first column (col. 9, lines 23-25);

Combining the group of rows into a single row (col. 9, lines 30-35).

Regarding on claim 12, Cheng teaches the comparison operation uses an equal comparison operator (equals "=") (col. 4, lines 4, lines 29-36).

Regarding on claim 13, Cheng teaches a computer implemented method for aggregating data in a database, comprising:

Parsing from a command line, a command, a source table (left table), a destination table (right table), a source key, and a destination key (col. 2, lines 42-47);

Comparing the source key in each row of the source table with the destination key in each row of the destination table (col. 9, lines 20-24);

Determining a set of update rows based upon the success of a comparison operation performed on the source key and the destination key (col. 9, lines 29-31);

Determining a set of insert rows based upon the failure of a comparison operation performed on the source key and the destination key (col. 9, lines 32-37);

Cheng does not explicitly teach updating the destination table with the set of update rows; and Inserting into the destination table the set of insert rows. Cheng teaches, "if the tuples of tables are preserved, then the operation is called full outer join" (col. 2, lines 49-50). In addition, Cheng also teaches, "in the output or answer set, for the non-matching tuples of a preserved table, NULL values assigned to the columns of other table" (col. 2, lines 53-55). This teaches the Null values are assigned to the columns of the other table (destination table). Therefore, it would have been obvious to one ordinary skill in the art to include the full outer join to combine those tables containing the columns of rows join those records and fill in the NULL values for empty columns to allow the user to receive the corrected result set from the requested query.

Regarding on claim 14, Cheng teaches combining the rows in the source table, wherein the resulting source table has a unique source key in each row of the source table (col. 8, lines 39-42).

Regarding on claim 15, Cheng teaches sorting the rows in the source table based on the source key (col. 9, lines 23-25); and

Creating a group of rows, wherein each row in the group of rows contain a matching element in the source key (col. 9, lines 23-25);

Combining the group of rows into a single row (col. 9, lines 30-35).

Regarding on claim 16, Cheng teaches the comparison operation uses an equal comparison operator (equals "=") (col. 4, lines 4, lines 29-36).

***Conclusion***

3. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure.

| | | |
|---|---|---|
| Eberhard et al. | (US. Patent No. 6,003,022) | Date: Dec. 14, 1999 |
| Tarin | (US. Patent No. 6,009,432) | Date: Dec. 28, 1999 |
| Galindo-Legaria et al. | (US. Patent No. 6,411,951) | Date: June 25, 2002 |

## *Contact Information*

4. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Baoquoc N. To whose telephone number is (703) 305-1949 or via e-mail BaoquocN.To@uspto.gov. The examiner can normally be reached on Monday-Friday: 8:00 AM – 4:30 PM, EST.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Kim Y. Vu can be reached at (703) 305-4393.

Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the receptionist whose telephone number is (703) 305-3900.

Any response to this action should be mailed to:

Commissioner of Patents and Trademarks
Washington, D.C. 20231.

The fax numbers for the organization where this application or proceeding is assigned are as follow:

- (703) 746-7238 [After Final Communication}]
- (703) 746-7239 [Official Communication]
- (703) 746-7240 [Non-Official Communication]

Hand-delivered responses should be brought to:

Crystal Park II
2121 Crystal Drive
Arlington, VA 22202
Fourth Floor (Receptionist).

JEAN M. CORRIELUS
PRIMARY EXAMINER

Baoquoc N. To
January 17, 2002